Grazing Stockpiled Fescue

What about the Endophyte?

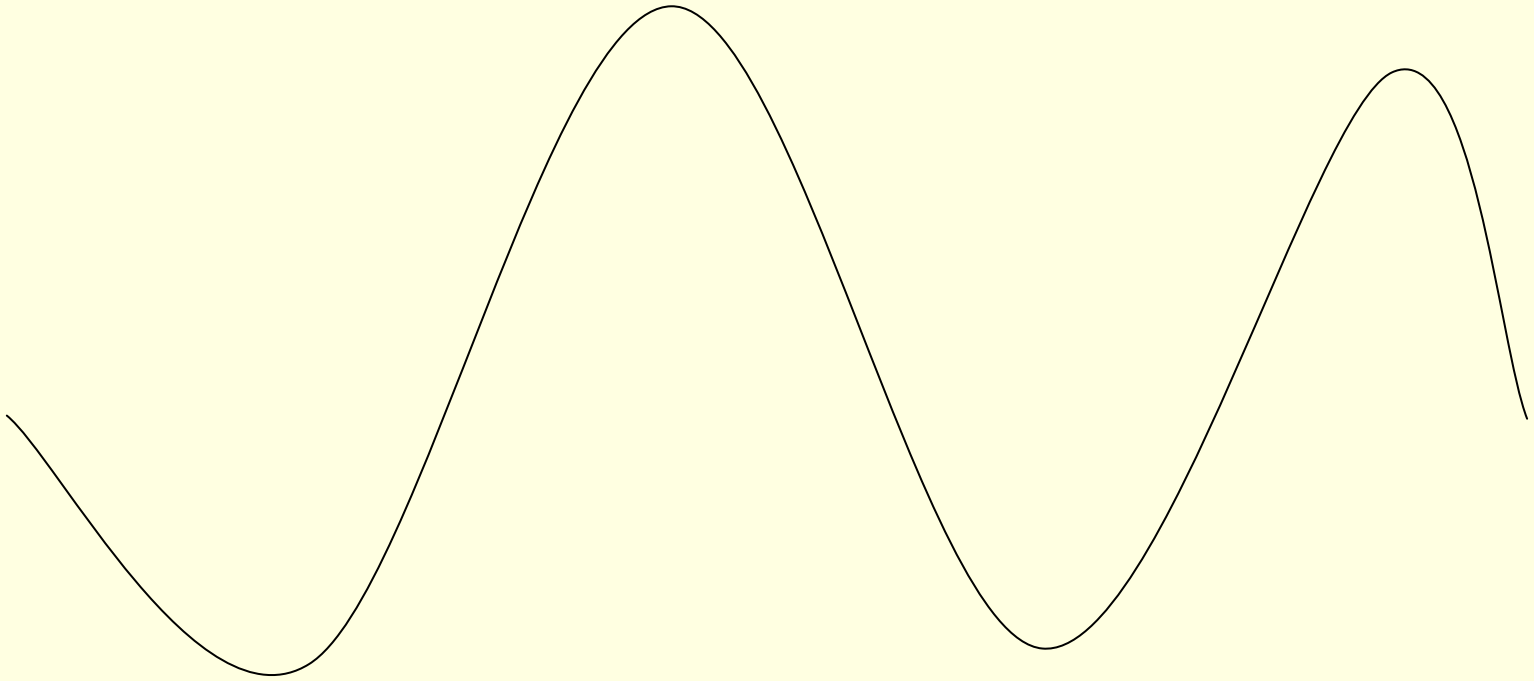
What's going on with the endophyte?

- An infected plant will always be an infected plant.
- A plant that is not infected will never be infected.
- The extent of the infection within the plant varies seasonally
  - When the growth rate of the fungus is high (related to temperature and moisture) it infects more of the plant tissue.
  - Growth rate of the fescue plant will not be the same as the growth rate of the fungus.

What causes the cows to be sick?

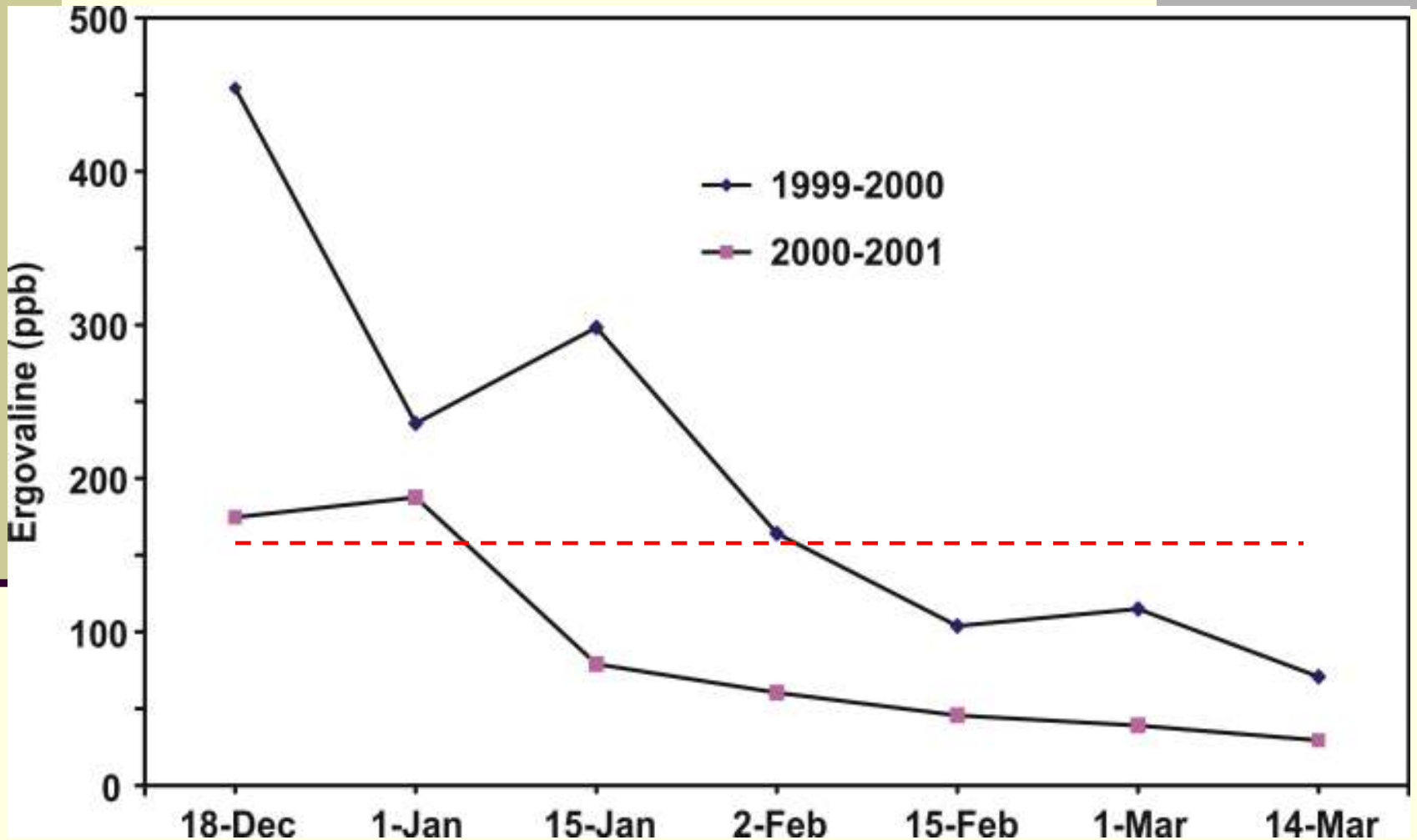
- The endophyte fungus, when rapidly growing, produces an alkaloid compound called ergovaline.
- The ergovaline is essentially a “vasoconstricter”—it causes the blood vessels to constrict inhibiting circulation.
- A level over 150 ppb causes trouble. (Garner)
- The appearance of symptoms in cattle will lag behind peak ingestion of ergovaline by 2 months or more.

Ergovaline level in fescue plant



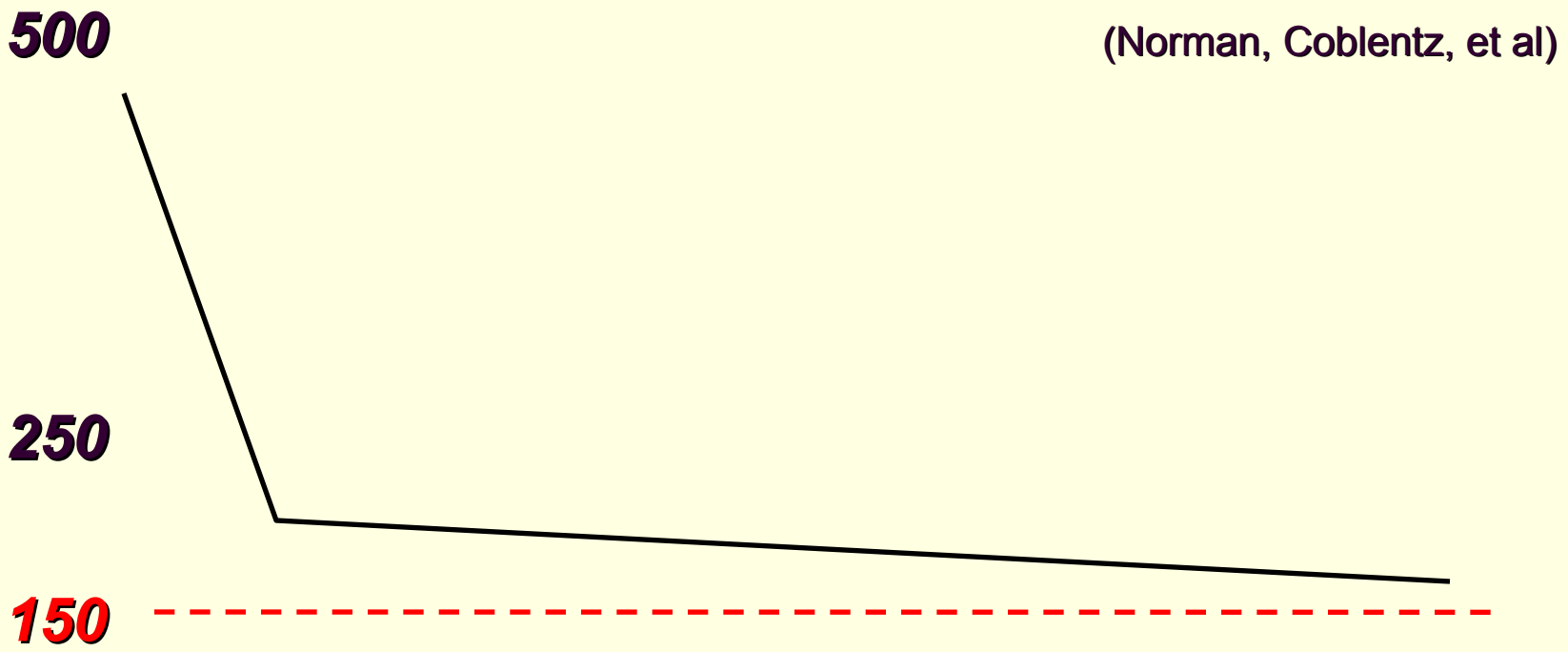
- Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Ergovaline concentration in stockpiled, endophyte-infected tall fescue.



Kallenbach, Missouri, 1999 - 2001

Ergovaline concentration in endophyte-infected tall fescue hay



So…

- Ergovaline level in stockpile will be high in December, will decline rapidly and fall below toxic levels in January
- Ergovaline level in HAY will decline rapidly between mowing and baling but will decline VERY slowly after baling—may never drop below toxic levels
- SO WHAT?

So what?

- ***Consider, in order to MANAGE the toxin:***
  - Feed stockpile that is *not* endophyte-infected ***1st***. (brome, orchardgrass, novel or E- fescue)
  - Feed hay next.
  - Save endophyte-infected fescue stockpile, and feed last.

Questions???